

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-14. (canceled).

Claim 15. (currently amended): A method for channel-specific adjustment of power levels of associated transmitted signals in an optical wavelength-division multiplex transmission system to achieve one of equal signal power levels and equal signal-to-noise ratios of received individual signals, the method comprising:

- determining transmission characteristics for each transmission channel;

- determining a transmission-end maximum permissible dynamic range;

- determining, on a channel-specific basis, signal power levels of the associated transmitted signals; and

- if the maximum permissible dynamic range at the transmission end is exceeded:

- determining individual power discrepancies of the transmitted signal power levels from a mean signal power level of the signals at the transmission end;

- calculating a transmission compression factor in compliance with the maximum permissible dynamic range, the mean signal power and maximum signal power discrepancies, the compression factor being equal for all transmitted signals;

- recalculating new signal power levels from the individual power discrepancies and the compression factor, such that a permissible reception-end maximum dynamic range is complied with; and

- setting newly calculated compression power levels of the transmitted signals;

calculating a transmission-end correction factor from a ratio of a previous transmission-end mean level value to a transmission-end mean level value from a new transmitted signal power level; and  
changing the individual signal power levels of transmitted signals using the transmission-end correction factor, which is equal for all transmitted signals.

Claim 16. (previously presented): The method as claimed in claim 15, further comprising keeping a maximum permissible total power level of all the transmitted signals substantially constant.

Claim 17. (previously presented): The method as claimed in claim 16, further comprising determining transmitted signal power levels of the transmitted signals and transmission-end values derived therefrom by measuring signal power levels of received signals and from the transmission characteristics of the transmission channels.

Claim 18. (currently amended): A method for channel-specific adjustment of power levels of associated transmitted signals in an optical wavelength-division multiplex transmission system to achieve one of equal signal power levels and equal signal-to-noise ratios of received individual signals, the method comprising:

- determining transmission characteristics for each transmission channel;
- determining a reception-end maximum dynamic range;
- determining, on a channel-specific basis, power levels of the associated transmitted signals; and
- if the maximum permissible reception-end dynamic range is exceeded:
  - determining individual power discrepancies of the transmitted signal power levels from a received mean signal power level;
  - calculating a reception-end compression factor in compliance with the maximum permissible dynamic range, the mean signal power and maximum signal power discrepancies, the compression factor being equal for all received signals;

calculating required compressed received signal power levels from the individual power discrepancies and the reception-end compression factor, such that the permissible reception-end maximum dynamic range is complied with;

calculating required new transmitted signal power levels; and

setting the newly calculated transmission signal power levels;

calculating a reception-end correction factor from a ratio of a previous reception-end mean level value to a reception-end mean level value from a new reception signal power level; and

changing the individual signal power levels of received signals using the reception-end correction factor, which is equal for all transmitted signals.

Claim 19. (previously presented): The method as claimed in claim 18, further comprising keeping at least one of a total received signal power level of all received signals and a total transmitted signal power level of all transmitted signals substantially constant.

Claim 20. (previously presented): The method as claimed in claim 19, further comprising determining the transmitted signal power levels of the transmitted signals and transmission-end values derived therefrom by measurement of the received signal power levels of the received signals and from the transmission characteristics of the transmission channels.

Claim 21. (currently amended): The method as claimed in claim ~~13~~20, further comprising ~~calculating the transmission-end correction factor from a ratio of a previous transmission-end mean level value to a transmission-end mean level value from a new transmitted signal power level;~~

~~changing the individual signal power levels of transmitted signals using the transmission-end correction factor, which is equal for all transmitted signals; and~~

keeping the maximum permissible total transmitted signal power level of all transmitted signals substantially constant.